

26. RUFFED GROUSE

Bonasa umbellus

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SUMMARY

Ruffed grouse, or partridge, are found throughout Vermont, and are targeted by hunters and other carnivorous birds and mammals. They thrive in dense, younger forests with a mix of shrubs, softwood, and young hardwood trees. Ruffed grouse feed primarily on fruits, berries, and nuts such as beechnuts and acorns. They require small openings of bare ground and fallen logs or rock walls for breeding. Maintaining a mosaic of dense softwoods, mast-producing hardwoods, and fruit and berry trees will help landowners promote ruffed grouse.

NATURAL HISTORY

Ruffed grouse, commonly known as “partridge,” are one of Vermont’s two members of the grouse family (spruce grouse being the other). Ruffed grouse can be found in every region in the state. This upland game bird is best known for its explosive flushes when approached too closely and for the reverberating drumming sound males produce to attract mates in the spring.

Annual mortality rates for ruffed grouse are quite high, approaching 70 percent. Grouse serve an important ecological role as a significant prey base for a host of ground predators such as foxes, raccoons, coyotes, skunks, bobcats, and avian predators such as goshawks, Cooper’s hawks, and great horned owls. In the northern latitudes of Vermont, winter’s cold temperatures and lack of food can result in poor survival as well. Deep snows, however, may actually enhance grouse survival by enabling them to dive below the snow’s surface to the security and insulation of a “snow roost.” The birds thrive best in the cover of dense young forests (especially aspen) and produce prolific numbers of young.

The polygamous male grouse interact with females only during the spring breeding season. The males select drumming sites on logs or rock walls above

ground level that are surrounded by dense vegetative cover. They beat their wings rapidly to create a low-frequency drumming noise that penetrates the forest and attracts resident female grouse. Females incubate their eggs in a well-camouflaged nest at the base of a tree, and chicks hatch in late May and early June.



Figure 26.1
Grouse drumming

Grouse eat a wide variety of foods, primarily grasses and insects, during spring and summer. Other favorite foods include the leaves, fruits, and seeds of aspen, blackberries, raspberries, elderberries, clover, and wintergreen. In fall, beechnuts and acorns are primary sources of energy-rich fat. When these fruits are no longer available, grouse feed on the buds and catkins of mature aspen, birches, hophornbeam, and hazel.

HABITAT REQUIREMENTS

Habitat consisting of several age classes of early successional tree species, such as aspen and paper birch, is most preferred by ruffed grouse. Superior grouse habitat contains three “critical” age classes of forest (0–10, 10–25, 25+ years), all located within a 40-acre home range. Quality grouse habitat also includes seasonal food sources close to thick, woody cover. Patches of softwood cover provide thermal protection during Vermont’s stressful winter season.

Ruffed grouse require cover for breeding, nesting, brooding, and winter roosting. Breeding cover consists of 10- to 25-year-old hardwood stands that contain a few scattered logs (at least 8 inches in diameter) elevated off the ground, large stones, or rock walls to be used as drumming sites. The best drumming sites provide adequate overhead cover from adjacent tree crowns or overhanging branches to protect from avian predation, as well as providing dense horizontal cover surrounding the drumming site. Horizontal cover is provided by thickets of young saplings, brush and/or logging slash that reduces visibility and provides some security cover to vulnerable drumming males from ground predators.

Nest sites are often found in open hardwood stands at the bases of trees or in cutover areas just under the edge of slash piles. These sites offer protection from at least one direction, reducing nest vulnerability.

Brood cover is typically found in brushy areas or seedling/sapling stands. Lowland areas with a mixture of young hardwoods or alders provide excellent brooding habitat. The edges of openings also offer excellent brood habitat. These areas have abundant herbaceous vegetation and high insect populations. Both conditions are important to meet the high-energy demands of young birds.

In the winter when powder snow depths are sufficient, grouse prefer to use snow roosts, as they provide the most thermally favorable protection from severe weather. In the absence of suitable snow cover or in crusted snow conditions, winter roosting habitat is also provided by deciduous saplings, or softwoods that provide some thermal cover from wind and cold temperatures.



Figure 26.2
Young forest grouse habitat



Figure 26.3
Aspen bud



MANAGEMENT PRACTICES

Aspen is widely recognized as a key tree species in ruffed grouse management. Buds of mature male aspen trees serve as a preferred winter food source, and young stands of aspen provide necessary dense cover. As such, you should give aspen stands, which sprout prolifically when cut, priority over other timber types when managing for grouse habitat. Stands with only a minor component of aspen can usually convert to predominately aspen if clearcut during dormancy (in the fall once leaves are off the trees).

Maintenance of dense, young forests should be your highest priority in grouse habitat management. Once you have identified an area to be managed for grouse (preferably one that includes some component of aspen), divide the area into stands of 2 to 5 acres. Every 10 years, rotate treatment on one-quarter of the stands as described below in a checkerboard pattern. Stands with the oldest aspen trees should be treated first.

Within each stand of roughly 5 acres:

1. **Prune apple and other fruit-producing trees and shrubs** such as hawthorn, cherries, dogwoods, nannyberry, and sumac and release them by cutting adjacent trees that are competing with and crowding them. Successful release of such species will allow them to be free to grow with no overtopping vegetation. The main crown area of the trees to be released should not have competition within the drip line and preferably beyond.
2. **Retain small patches of softwood trees** (1/4 to 1/2 acre in size) for winter cover. Preferred species include eastern hemlock, northern white cedar, or areas of spruce-fir, but any softwood that intercepts snow and wind thereby decreasing snow depths and wind chill is beneficial.
3. **Maintain rock walls free of vegetation** and/or leave several large, elevated logs as drumming sites during the stand treatment.
4. **Provide openings with herbaceous vegetation** on 10 percent of the area being managed (4 acres of a 40-acre management area). Create herbaceous acreage by seeding log landings and woods roads. Maintain by periodic mowing.
5. **Maintain mast trees** as sources of fall foods such as oaks, hophornbeam, or beech as long as they do not total more than 20 percent of the area. Be mindful however that a “key mast area” such as a high-value oak or beech stand is not an appropriate site to clearcut for grouse. Look for an alternative, more appropriate area to manage for this type of early successional stage, grouse management.
6. **Clearcut the remainder of each stand** being treated during the winter dormant season to promote prolific aspen sprouting in the newly created open sunlight. Keep in mind that just because an area is clearcut, it is not guaranteed that aspen will regenerate. In order to assure a higher likelihood of regenerating aspen, there should be vigorous aspen already in the stand to be clearcut.

If your woodlot has not been managed before and consists of older aspen trees (more than 40 years of age), the management activities need to be accelerated. Treat half of the stands of 5 acres or less as prescribed above and follow with a second treatment of the remaining half of the area in 10 years. Throughout the process, maintain groups of mature aspen on the property for winter food supplies.